DOCUMENT RESUME

ED 328 613 TM 016 145

AUTHOR - McCurdy, Jack, Ed.; Speich, Don
TITLE Testing.
REPORT NO ISSN-0013-1571
PUB DATE 7 Jan 91
NOTE 10p.
AVAILABLE FROM Education USA, 1501 Lee Highway, Suite 201, Arlington, VA 22209 ($3.00 each prepaid with a minimum order of 5 copies).
PUB TYPE Collected Works - Serials (022)
JOURNAL CIT Education USA; v33 n19 spec iss Jan 91

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Basic Skills; Economic Factors; Educational Change; *Educational Trends; Elementary Secondary Education; Multiple Choice Tests; Performance Tests; Politics of Education; School Districts; School Restructuring; *Standardized Tests; State Action; Testing Problems; *Test Use

ABSTRACT

Seven short articles on the use of standardized tests in the United States are presented. Topics include: (1) the effects on school restructuring during the 1990's of the backlash against standardized tests; (2) the movement to replace multiple-choice standardized testing and its relationship with curricular goals; (3) the influence of standardized tests on the movement away from emphasis on higher-order skills and toward basic skills; (4) the history of standardized testing; (5) political and economic factors of standard testing versus "authentic testing"; (6) efforts in California, Connecticut, and Michigan to move away from standardized testing; and (7) experimentation by school districts in the area of performance-based assessments. A 12-item bibliography of recommended reading materials is appended. (TJH)

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EDUCATION USA SPECIAL ISSUE: TESTING

January 7, 1991 Vol. 33, No. 19

TM016145

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Special Issue: Testing

Education USA

The Independent Weekly Education News Digest Published for School Leaders

Backlash Against Standardized Testing Triggering Action Powerful Enough to Shape School Restructuring in the 1990s

Issue Analysis

Standardized testing, which many educators have loathed for years, has become such a dominant force in American education that it has triggered a powerful reaction. Such a response may turn out to be a potent catalyst for school restructuring in the 1990s and beyond.

The use of standardized, multiple choice tests, which focus on basic skills and minimum competency, exploded in the late 1970s and early 1980s to the point where virtually every student is now tested at least once a year, experts say. Many are tested more often.

Efforts to reform education mounted in the 1980s, and testing proliferated as the key way to determine whether reforms were working.

Within the past several years, as research and reports on standardized testing have piled up, many educators have been shocked by evidence of its pervasiveness in schools. Tests have been used to shape curricula, promote and certify students for graduation, evaluate teachers and administrators and, in some cases, to determine their job status.

It has reached the stage, critics say, where test results have become almost the exclusive means of judging school performance, despite severe built-in limitations. There is a growing consensus they are incapable of measuring progress toward new learning goals, which are at the core of the movement to restructure schools.

An assessment system is envisioned that would more accurately measure new learning objectives, such as higher-order thinking and problem solving skills.

As a result, distaste for these tests has spread far beyond the teachers and school administrators who branded testing as wasteful and counterproductive when their use by states and school districts began to take off in the 1960s.

Now, a growing number of state and federal education leaders, school groups, testing experts and other critics have mounted an effort to change the character and content of tests employed for accountability purposes.

Their goal is a different kind of assessment system that more accurately measures new learning objectives, such as higher-order thinking and problem solving skills. Such an assessment system requires students to demonstrate mastery by giving "performances," to show they can actually write passages or reason through math or science problems.

The tests, typically called "authentic" or "performance-based," are tied directly to the curriculum. They also provide feedback that teachers and

(Continued on next page)

This special issue was written by Education USA *West Coast Editor Jack McCurdy and Don Speich, a freelance writer based in Santa Barbara, Calif. Reprints are $3 each prepaid with a minimum order of five copies. Order from* Education USA, *1501 Lee Highway, Suite 201, Arlington VA 22209; 703/528-5840.*

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Standardized Testing Increasingly Identified as Threat to Changes in Curriculum Considered Essential to Restructuring

(Continued from front page)
school administrators need to evaluate the effectiveness of instructional programs and practices.

Some states have started to change student assessment programs to incorporate these new kinds of test questions, and virtually all states are experimenting with similar plans, state officials said.

The National Assessment of Educational Progress is placing more emphasis on performance-based questions, which will be part of the state-by-state results NAEP is set to release for the first time this year.

Two major grants have been awarded recently to help develop new student performance systems.The University of Pittsburgh and the National Center on Education and the Economy were awarded $2.4 million, and the Education Department gave $14.3 million to UCLA's Center for Research on Evaluation, Standards and Student Testing. Test publishing companies also are exploring ways to devise tests that are technically sound and affordable.

The major professional education organizations say they support the concept of alternatives to multiple choice testing, but most still oppose the use of any tests for comparisons among schools and states.

Standardized testing has been widely criticized over the years for its unfairness, bias against some minority groups, infringement on school time and for the inflated scores that have been discovered by some investigators.

But only recently has testing been identified pointedly for the first time as a threat to changes in the curriculum considered essential for restructuring.

Testing had been accused of "driving" schools to teach the shallow content of multiple choice tests. Now such testing is seen as a barrier to the success of school reforms that emphasize thinking skills and in-depth knowledge.

Tests 'Incompatible'

Two leading authorities, Lauren Resnick of the University of Pittsburgh, and her husband, Daniel Resnick of Carnegie Mellon University, concluded "the tests widely used today are fundamentally incompatible with the kinds of changes in educational practice that are needed to meet current challenges."

The idea is also gaining support outside of education. A National Governors' Assn. report said "states should rely more heavily on essays, open-ended problems, portfolios and other demonstrations of competence and accomplishment" in their testing.

But in their drive to transform testing, reformers face potentially serious funding, political and technical obstacles.

Performance-based assessments will cost more, most educators and politicians agree, and whether reformers can sell policymakers on the merits of funding new tests remains to be seen. The hope is technology and research can help keep costs down and solve technical questions. The NGA report said new assessments "will be costly, but are worth the investment."

There also is general agreement politicians and the public will still want test score comparisons, which standardized tests yield. Most assessment authorities believe those demands must be met, regardless of the benefits of new tests. That means multiple choice tests—in some form—are likely to remain until a new breed of assessments can prove politically and financially feasible.

Education USA © (ISSN 0013-1571) Published weekly by the National School Public Relations Association,1501 Lee Highway, Suite 201, Arlington VA 22209. Second-class postage paid at Arlington VA. Subscription price $99 a year; Address editorial and subscription correspondence to ***Education USA.*** Editors: 703/528-6560. Subscription Desk: 800-48-NSPRA.**Bulk Subscriptions:** First subscription is the regular rate of $99; all others $33 each, with a minimum of 8 subscriptions. This rate applies only to U.S. subscriptions mailed and billed to same address; $1,164 for camera ready. **Publisher:** Joseph Scherer; **Editor:** Mary Hoenk Massey; **Associate Editor**: Joni M. Lucas; ; **State Writer:** Hope Kessler; **Copy Editor:** Beth Hakola; **West Coast Editor:** Jack McCurdy, 800 Anchor St., Morro Bay CA 93442; 805/772-3113.; **Business Services**: Alethea Brown;
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New Assessment System Aligned Closely with Curricular Goals; Multiple Choice Testing Will Be Improved But Not Eliminated

The movement to replace standardized, multiple choice tests with new kinds of assessments could not only revolutionize testing but may act as a major force for school reform.

A radical shift in testing would be part of a one-two punch—along with curriculum reform—that is designed to change what takes place in America's classrooms.

Since a key criticism of multiple choice tests is that they fail to measure, encourage or reflect the "thinking curriculum," to use Lauren and Daniel Resnick's term, the new tests are being aligned closely with new curriculum goals, an integral part of the drive to restructure American schools.

The tests are known as alternative, authentic or performance-based instruments because they require students to demonstrate they know or can do what is considered educationally important. By contrast, conventional multiple choice tests are indirect "indicators" of competence without demonstrating skills.

In **Connecticut,** for example, these performance-based tests are part of a state pilot assessment program requiring students to conduct simple investigations to find out if they really understand science.

This power of tests and assessments to influence educators' behavior is precisely what makes them potent tools for educational reform.

—Lauren and Daniel Resnick

Within the past year, test reform has become linked directly to school restructuring because of the new and powerful role tests have assumed in public education.

One reason is preparations for conventional tests "are devouring valuable instruction and learning time" at the expense of thinking and reasoning skills, a National Commission on Testing and Public Policy report said last year.

As long as so much rests on accountability testing and scores, the kinds of tests used in schools is all-important. Just as multiple choice tests are seen as barriers to reform, performance-based tests are now being viewed as levers of change.

"This power of tests and assessments to influence educators' behavior is precisely what makes them potent tools for educational reform," the Resnicks wrote.

Tests become "instruments of school reform," they added, because assessments designed to measure thinking and reasoning skills are likely to encourage schools to concentrate on teaching those same skills.

Thus, the current "debates are primarily about curriculum and learning goals, not about techniques of assessment," they noted.

"It came from a change in the attitude of curriculum people to recognize the importance of tests to improve curricula," said Edward Roeber, Michigan assessment director. "They saw tests as an effective way to change instruction."

They were inspired by the changes that have transformed the theory of human learning in the past 10 to 15 years. The shift has been from understanding learning as "an accumulation of pieces of knowledge and bits of skill" to "learning that is thinking- and meaning-centered" with a "central place for knowledge and instruction," Resnick and researcher Leopold Klopfer wrote.

Testing experts agree mass performance-based assessments are technically feasible, as states have shown with their trials. But they still face a challenging research and development task before assessment is transformed.

The mounting trend toward performance-based assessments, however, does not mean the end of accountability testing or multiple choice tests.

Many experts and assessment officials agree with the testing commission's conclusion that "testing is useful and inevitable: we must know how our institutions are doing."

There is a growing consensus that multiple choice questions—improved and elaborated—will remain a part of state testing programs and the federally funded National Assessment of Educational Progress. It will be necessary to permit local, state and national comparisons of scores until performance-based tests are perfected and comparability scales are developed.

Influence of Decades of Standardized Testing Pervades Schools; Served to Crowd Out Higher-Order Skills in Favor of Basics

As reformers press to change education, they recently have discovered the influence of standardized, multiple choice and nationally normed tests, which may have had a significant, though hidden, impact on American schools over the last 20 years.

These tests, which are now administered annually on average to virtually all 40 million of America's school children, have come to represent the No. 1 barometer of school performance.

Their use has grown dramatically since the late 1960s when only one state had a student assessment program, compared to all 50 states today. The current annual cost of testing is estimated at between $700 million and $900 million by the National Commission on Testing and Public Policy.

But in the rush to impose school accountability through testing, states created an assessment enterprise that, as one test expert put it, is "running amok."

The problem is that the tests—most of which focus on low-level basic skills and minimum competencies—do not test what a growing number of educators now agree students should know. But because such great importance has been attached to the tests' results, critics charge, many schools apparently engaged in a wholesale effort to raise test scores and have often ignored what children really need to learn.

"American school children are the most tested in the world and the least examined" on important skills and content, say Lauren and Daniel Resnick, two leading authorities on the subject.

Basic Skills Tests

The basic skills tests themselves—widely available from testing companies and relatively cheap to buy, administer and have scored—"emphasize quick superficial answers, atomization of concepts and the existence of single 'right' answers" instead of possibly several reasoned replies, said Eva Baker of UCLA and Robert Linn of the University of Colorado.

In contrast, the goal of the restructuring movement is to produce students with higher-order thinking skills, problem solving ability and in-depth knowledge. The tests are considered incapable of measuring desired school outcomes, which are rarely tested.

Yet, test scores have increasingly become the basis for judging school performance, and "when the scores have serious consequences...teachers will teach to the test," said Lorrie Shepard of the University of Colorado.

"'Is it going to be on the test?' is the universal student question," Grant Wiggins of the National Center on Education and the Economy said. "A test fixes priorities, no matter what else we say."

In the 1980s, as testing accountability spread and the pressure to drill students for test preparation intensified, tests have become "high-stakes affairs." The reason is the growing use of test results "for evaluating teachers for promotion, for career-ladder status, for salary, even for tenure and retention...and in some places for evaluating administrators," said Linda Darling-Hammond of Columbia University.

But this is much more than a case of misguided, overemphasized tests, the Resnicks and others insist. When stakes are high, they say, the basic skills tests squeeze out other learning goals in what has become known as "driving the curriculum"—in the wrong direction. When this occurs, they say, it becomes a case of "corrupting" the curriculum, which embodies the very mission of the school.

In **New Jersey,** for example, state test results were issued to districts, schools and classes as well as parents and students. A detailed list of the minimum basic skills measured by the tests was given to schools, and teachers were "encouraged to use the lists in their basic skills teaching," Norman Frederiksen of the Educational Testing Service reported. Old forms of the tests were also furnished to teachers for "instructional purposes," he wrote.

Schools were subject to review in New Jersey if scores were low. The state later adopted a new test placing more emphasis on thinking skills.

Researchers say there is ample evidence tests can and do drive the curricula, and many fear it is widespread, although they cannot be sure. Darling-Hammond says surveys show as testing spread in the late 1970s, "the use of teaching methods appropriate to the teaching of higher-order skills declined in American schools."

Roots of Standardized Tests Run Deep in American Schools; Some in Education Who Once Embraced Tests Now Shun Them

The standardized test has been a vexing sidekick to American education for more than a century. It began supposedly as an administrative convenience and evolved quickly into an unwanted message service that many have found difficult to listen to and even more difficult to ignore.

There has been a growing dependence on standardized tests as a report card on American education, a dependence now so entrenched that it could confound any attempt at substantive change.

Its roots go back to 1854, when the Boston city school trustees adopted a written examination to supplement traditional oral examinations which had become too unwieldy given the burgeoning school population.

Unfortunately, notes educational historian Daniel Resnick, the schools got a message they had not bargained for: a high failure rate, which indicated "deficiencies of instruction and perhaps excessive difficulty in the curriculum," and the genesis of test scores as a tool to make schools accountable to public "authority at the state level."

What followed was a growing dependence on standardized tests as a report card on American education, a dependence now so entrenched that it could confound any attempt at substantive change.

After the turn of the century, there was widespread use of standardized testing for a variety of purposes—some controversial by today's standards. Intelligence tests like the Stanford Binet scale were used, Resnick notes, to sort students into programs where they would be less likely to fail.

During World War I, nearly 2 million recruits were given intelligence tests, and large numbers of high school graduates scored alarmingly low, which sparked a debate about, among other things, "the failings of our schools," Resnick said.

As a result, school administrators looked for ways to diagnose school problems and justify subsequent solutions.

Standardized test scores fit the bill, and after the war, educators turned for help to the hundreds of psychologists who had worked on the military intelligence tests.

In the 1960s, standardized tests were used to measure the effects of federally funded compensatory education programs, and at the state level to assess the impact of the increasing amounts of money being earmarked by legislatures for public schools.

In the 1970s, standardized test scores provided the first solid evidence of declining academic achievement, but many dismissed it as niggling and misleading.

However, other evidence soon mounted to corroborate the decline, convincing even the most earnestly dubious that reform was needed.

By the mid-1980s, with new reforms under way, standardized testing took on more importance than ever before.

Policymakers and educators, some previously skeptical of standardized testing, embraced test scores as a way to identify problems and validate solutions.

Lessons From Testing

★ You get what you assess. Educators will teach to the tests if the tests matter in their own or their students' lives.

★ You do not get what you do not assess. What does not appear on tests tends to disappear from classrooms in time.

★ Build assessments toward which you want educators to teach. Assessments must be designed so that when teachers do the natural thing—that is, prepare their students to perform well—they will exercise the kinds of abilities and develop the kinds of skill and knowledge that are the real goals of the educational reform.

—Assessing the Thinking Curriculum: New Tools for Educational Reform.

Political, Economic Costs of New Student Assessment System Hard to Estimate, But Demand for Scores Will Remain Constant

In calling for major changes in the way American students are tested, reformers have delivered a potentially expensive and politically tricky wakeup call to those baffled by the inertia of educational restructuring. Part of the answer is in the tests, they say, and if you change them, reform will come sooner.

> *We have to have the right kinds of assessment, and we have to have the hard numbers.*
>
> —Dale Carlson

Out with the old—tidy, rigid, machine-scored, multiple choice tests—and in with the new—essays and hands-on lab experiments and scores subjectively rendered by well-trained teachers.

There are technical obstacles, which can be overcome, reformers say, but other potentially more serious problems loom.

The new tests—called authentic or performance-based—could cost states millions of dollars, and the expense might be politically difficult to justify, particularly in austere times. For example, if **California** were to shift from existing tests to a full authentic assessment, the annual cost could be as much as $192 million for its 4.8 million K-12 students, according to state figures.

Because authentic assessment is so new, its costs are difficult to estimate. California is one of a handful of states with some experience in the area, having incorporated an authentic assessment writing examination into its California Assessment Program.

Dale Carlson, director of CAP and president of the National Council on Measurement Education, says California now spends $2 to $3 per student on multiple choice testing. The CAP writing assessment costs about $5 per student and uses a matrix sample that doesn't yield individual student scores.

Matrix sampling, as well as improvements in testing technology, can mitigate the potentially high cost of individually scored authentic assessment, he and others say.

Carlson estimates testing students individually would probably increase the cost to $7 per student for the writing assessment and $10 per student for other subject areas like science, which uses lab equipment, or history, which uses group participation. For math, science, history and reading/writing, Carlson says, the cost might be about $40 per student, or about $192 million per year.

Authentic testing faces obstacles other than money. School accountability, measurement of individual student achievement and comparability between schools have become important issues to legislators, school boards, parents and others. Standardized test scores are used as a barometer for measuring performance.

Many are asking whether authentic assessment, with its essay and exercise approach and subjective scoring, can satisfy public demand for scores that are easily understood and that allow comparisons among schools, districts and states.

Chris Pipho of the Education Commission of the State notes reliance on numbers to measure quality is a societal characteristic that goes beyond education.

"When your neighbor wants to buy a car, he doesn't make a move without checking *Consumer Reports*," he says. "Look around. All you hear is football and basketball scores. Everybody wants numbers."

Carlson says a key challenge facing authentic assessment is whether it can serve the dual purposes of testing higher-order skills and providing hard measures of school quality and accountability.

"We have to have the right kinds of assessment, and we have to have the hard numbers," he says.

To do that, California will retain some multiple choice questions in its new tests.

Grant Wiggins of the National Center on Education and the Economy believes cost and politics should not be allowed to cloud the primary issue, which is lasting, effective reform.

"First devise the tests," he says, then "...worry about a fair, efficient, and objective method of grading them as a secondary problem."

States Leading Move Away From Standardized Tests

States now are at the forefront of a national movement toward performance-based testing by shifting their student assessment programs away from total reliance on standardized, multiple choice tests.

In the last few years, about eight states have added performance-based questions to their tests, and the rest are considering similar moves, said Edward Roeber, Michigan state assessment director. He surveys states for the Assn. of State Assessment Programs.

States "have embarked on some bold efforts to transform the nature of assessment," said Eva Baker of UCLA and Robert Linn of the University of Colorado, by using "more open-ended problems, essays, hands-on science problems, computer simulations of real-world problems and portfolios of student work, especially in writing."

California is considered to be furthest along and may become the first state to get a legislative mandate for conversion to performance-based assessment if a pending bill passes this year.

In 1987, California started requiring 8th grade students to write essays as part of the California Assessment Program. The state also has added essay writing and open-ended math questions in 12th grade and is planning science and history-social science performance tasks in the future.

Connecticut may become the first state to establish across-the-board achievement standards under performance-based testing as part of its new Common Core of Learning Program, which sets statewide learning goals. Common core testing is scheduled to begin later this year in science and math at the 11th and/or 12th grade levels.

Michigan, probably the first state to use performance-based tasks in its assessments in 1974, employs performance-based tests in as many as 10 subject areas depending on available funding. Testing includes written essays, classroom observation and group performances.

School Districts Experimenting With Performance Assessments

More school districts are beginning to experiment with performance-based assessments to get a truer picture of student accomplishments. But they still face strong pressures to focus on standardized, multiple choice testing for accountability purposes.

About 20 states mandate the use of standardized tests as part of their student assessment programs, said Edward Roeber, co-chairperson of the Assn. of State Assessment Programs.

Many districts use a form of these tests to comply with federal requirements for identifying students eligible for Chapter 1.

But a 500-sample survey showed more than 100 school districts in the nation are exploring alternatives to standardized testing. The survey was conducted by Joe Hansen of Colorado Springs, Colo., and Walter Hathaway of Portland, Ore.

Frequently cited as a model district assessment program is Monitoring Achievement in Pittsburgh, which has become heavily performance-based since its inception in 1981. Its ratios of performance tasks range from 60 percent in science and math to 100 percent in composition.

Because MAP is designed to "assess curriculum and its delivery," it tests students in some subjects up to six times a year, and individual results are returned to schools within seven days of testing, assessment director Paul LeMahieu said.

Classroom, grade and district results are compiled, and, depending on the subject, are measured against standards as unsatisfactory, satisfactory, proficient and exemplary.

Pittsburgh students also take standardized, multiple choice tests as part of the overall testing program. But the dominant influence on the curriculum derives from MAP because its content is tied closely to instructional objectives, written primarily by Pittsburgh teachers, LeMahieu said.

Other schools are experimenting with portfolios, exhibits, presentations and videotaped records of student work including Key Magnet School in **Indianapolis**, Narragansett/White Rock elementary in **Gorham, Maine,** and Thayer High School in **Winchester, N.H.** They have started making these assessments a part of reporting student progress.

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